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NEWS IN BRIEF

Univac ousts ICL on buses

UNIVAC has won £3.6 million worth of business at the expense of ICL from NBC Computer Services, the organisation that handles DP for the State-owned National Bus Company. NBC is replacing seven ICL 1000 machines with Univac 1100/60 minicomputers to be installed at NBC centres at Preston, Birmingham and Rotherham, Surrey.

Also on order are about 30 Univac V77/800 minicomputers for local processing at bus operators.

NCR expands

AN EXPANSION programme costing \$15 million is planned by NCR over the next four years to increase its capacity in the US for developing and manufacturing semiconductor components.

\$7.5 million plans

DIGITAL Equipment is considering investing \$7.5 million (£7.5 million) to establish a minicomputer manufacturing plant in Singapore.

Oracle potential

THE commercial potential for Oracle, the Independent Broadcasting Authority's teletext service, is to be investigated by AYS Intext, the London-based videodata consultants and information providers.

Hearing delayed

APPLE Computer's application for an injunction to restrain ITT Consumer Products (UK) from allegedly infringing its copyright has been delayed until after October 1.

COMPUTER WEEKLY

Expert system to help with North Sea oil

ARTIFICIAL Intelligence is to be used to smooth the operation of North Sea oil rigs, under a development project at Edinburgh University sponsored by BP.

Staff at Edinburgh's Machine Intelligence Research Unit are developing a system based on a Digital Equipment PDP 11/34 and written in Pascal — which

will help oil engineers diagnose the causes of automatic shut-downs on oil platforms, saving large sums of money.

An expert system called AL/X is being devised, based on the ideas in MYCIN, which gives medical diagnoses, and PROSPECTOR, which assists with searching for minerals.

Workers from Edinburgh

have been interviewing BP engineers and compiling a "knowledge base" about the operation of oil platforms which is expected to consist eventually of several hundred rules and should be working by 1981.

Mishaps on a rig can trigger an automatic shutdown in a number of different ways, and when this happens staff have an

immediate problem in trying to work out what went wrong and how production can be started up again safely. Even short delays can cost millions of pounds in lost output.

When in operation, a minicomputer on the rig will ask itself a series of questions about the current state of the equipment, and from the answers and the rules it has been given previously will work out a probable diagnosis of the fault.

The operator can if he wishes divert the course of the computer's questioning or ask it to display the chain of reasoning that has led it to reach a particular conclusion.

Stop dithering over PAYE—Callaghan

THE failure by the Cabinet last week to decide on whether the huge inland Revenue PAYE contract should go to open tender, could lead to independent consultants being called in to advise the relevant ministers on the decision.

A spokesman for the Central Computer and Telecommunications Agency said that no decision had been made yet on bringing in a consultancy while a spokeswoman for the Prime Minister said that she had "no idea" when the Cabinet would meet next to discuss the matter.

The PAYE controversy has now reached the level of direct exchanges between the Prime Minister and Opposition leader James Callaghan, on the floor of the Commons.

Last Thursday after Wednesday's inconclusive Cabinet meeting, Callaghan told the Premier in the House that the government "should" stop dithering about the decision. She retorted: "You will not succeed in hustling me. This matter is still being considered. There are many computer firms here. We have to get the right computer for the job."

Meanwhile, IBM has denied reports that it is offering to site a manufacturing plant in the UK. It wins the PAYE contract (CW, July 14) adding that it is not seeking a location in the EEC for a general business group factory.

On reports that IBM might be

prepared to adopt a loss leader approach to the PAYE contract, IBM stated: "It is not and never has been our practice to engage in loss leading."

Honeywell, which has been relatively quiet until now

compared with some of the other contenders in the PAYE contract arena, made its mark last week in the form of letters to The Times and Financial Times from the chairman of Honeywell UK, Ralph Price, making the case for open tendering.

Users can wait up to two years for leased lines

DELAYS of up to two years on the supply of leased lines and bad communications with customers were two of the criticisms accepted by British Telecom when a team led by marketing director Gordon Pocock met a delegation from the National Computing Centre, led by director David Fairbairn, in March.

British Telecom offered explanations for its shortcomings and discussed its plans to overcome them. Leased lines had been delayed first by financial recession, then by excess demand when call charges had been put up without matching increases on leased line charges, and finally by industrial action.

Only the Modem 12 was acknowledged to be subject to delay and this was to be cleared by September. It transmits at 1,200 and 2,400 bps. New modems providing duplex connections at

1,200 bps on two wires and 9,600 bps transmission with multiple facilities would be available before the end of the year. Modem supply would generally improve because of expected changes to the monopoly.

CAFS, IDMS trial marriage

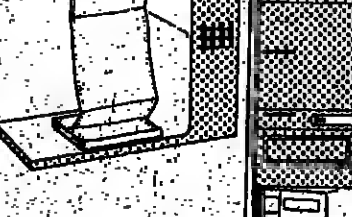
From front page problems look trivial; further work should reduce their impact.

CAFS tends to be regarded as a system designed for complete database searches for every query. This of course would be absurdly inefficient, and in fact the approach is to strike the right balance between the number of separate CAFS files established and the time it takes to scan.

The CAFS inquiry language has been written with a view to unqualified personnel making

their own inquiries, and several enhancements are planned in the next release of the software. Among these will be facilities for online updating of CAFS files, and an on-demand report generator.

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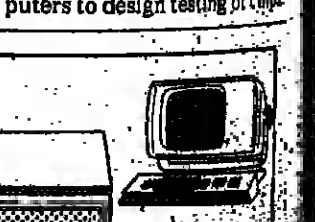
EEG bid to harmonise data nets

PROPOSALS for harmonisation of planned national data networks, the creation of an EEC-wide purchasing policy for PTTs, and support for the European microelectronics industry, previewed last week by the EEC Commission, urged the Council of Ministers to accept and begin implementation of all three proposals by the end of the year.

"It wants harmonisation of policies within the CEE standards body so as to ensure European standard VDU for public networks in the Community, and a liaison committee with representatives from the Commission and the PTTs to oversee the work."

It also wants an open market for PTT tenders within the Community, to ensure as a first step that at least 10% of national orders are placed in other EEC countries.

The microelectronics support plan calls for EEC funds of up to 200 million units of account, £120 million over four years, to be devoted to encouraging European process equipment manufacturers to make the plant necessary to enable sub-micron integrated circuits to be made by 1985; to co-ordination of national programmes; and to study the application of computers to design testing of chips.



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Briefing

STC stake in Inmos?

CONFUSION reigned over the future of Inmos as Computer Weekly went to press, with the Department of Industry confirming and STC denying that the US multinational was interested in taking a stake in Inmos. STC is part of ITT, which already has a semiconductor plant in Footscray.

The National Enterprise Board has completed its third review of Inmos, and Industry Minister Sir Keith Joseph had been expected to decide this week whether to make a second £25 million investment in the national chip company. STC's possible interest could delay that decision.

Robot lead

THE UK could jump to a world-leading position in the development of second generation robots from its present backwater state if the SRC's £25 million initiative in a success. Robots with senses of vision and touch and other greatly enhanced capabilities are intended to come from the partnership programme which has now started moving. See page 3.

Ops' dispute over

THE dispute involving 50 operators and programmers at the West Midlands Health Authority ended when they agreed to process April 1 pay rises for some 8,000 Midland doctors and dentists. The computer staffs' change of mind came in time to prevent the doctors taking legal action against the WHA over their £37 million in back pay.

\$55m takeover offer

APPLIED Digital Data Systems, the VDU and small systems builder, is the subject of a takeover offer worth more than \$55 million from Mitei, the Canadian telecommunications manufacturer (CW, June 12). With a turnover this year predicted to be up to \$115 million, Mitei is about twice the size of ADDS.

Growing family

DATA GENERAL has extended its commercial systems family with machines at the top and bottom ends: the CS/10 and CS/70. The CS/70 costs £7,140, while prices of the CS/10 range from £23,700 to £80,000. Both new machines run the innovative version of Cobol that is the feature of the CS family.

Show order

JAMES SCOTT Electronic Components, the firm that bundles the supply of VDUs at the top end, has won an order for 500 units of its new computer equipment from a West Midlands company.

James Scott Electronic Components Ltd, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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Downtime

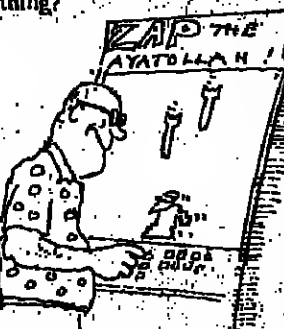
by Chad

That sinking feeling

COMPUTERS to blame again. It has been suggested that it was a computer error that led to the tanker Energy Concentration being unloaded wrongly and sinking while peacefully heaving in Rotterdam harbour. They emptied the middle tanks before the fore and aft ones, the middle of the ship went up, and snuff! Ding-plug-plug.

There is something magnificent about advanced technology that can produce something that will just destroy itself spontaneously with so little performance. One imagines that for a ship to be lost it has to be pounding round Cape Horn in a Force 12 with rucks on one side and leeches on the other. To sink to the bottom in the safety of a harbour is ignominiously indeed.

I am so impressed by the relaxed attitude of those in authority towards formal qualifications for the binkies to whom they entrust these multi-million-pound contraptions. You and I, brought upon our island enforcing heritage, imagine that to achieve such responsibility, a sailor has to spend years before the mast on a gruelling apprenticeship, absorbing all kinds of arcane skills and lore. Other countries are more enlightened, of course, what are the beaches of Europe compared to the need for seamen and shipowners to do their own thing?



Conflict of interest

THERE are so many things going on in the computer industry that it is difficult to keep track of them. The arguments just miss each other — that it is refreshing when you hear people actually contradict each other on a public platform. This happened at the Parliamentary Computer debate on preferential public purchasing.

Alan Benjamin of ICL said that overseas customers would never have confidence in the firm if the British government did not buy ICL. Then Tony Cleaver of IBM got up and said that preferential treatment could erode credibility abroad. Clear days, folks!

How long is a PCB?

ICL held a sale opening for its new multi-layer printed circuit board factory in Plymouth Grove, Manchester, the other day. After the tour and the technical explanations were given, the heavyweights of the industry were asked to sign a petition to support the factory. ICL was asked to sign a petition to support the factory. ICL was asked to sign a petition to support the factory.

GILB'S MYTHODOLOGY

PHISTER has followed up his original handbook, which contains the most complete collection of facts and figures about the computer industry ever published, with a supplement. Published earlier this year, it covers, in some cases, up to 1979.

Anybody who wants solid facts about the techniques, the suppliers, the methods and the money in our industry should have a copy by his or her desk or at least in the company library. The most impressive thing about Phister's book is that it is Phister's book alone. No institute of higher learning, no professor, no large company or even small consultancy has managed to give our industry so well-organised a set of facts about ourselves. Shame on us! On the other hand, if a single person working from his home office can produce such useful reference works, then perhaps when we get around to writing the other engineering handbooks we need to write only a few more Phisters will be required.

In earlier columns I have spoken about the need for a systematic organisation of our knowledge, for system engineers and for management. We are too big and complicated, and we are too dynamic to allow ourselves to continue to learn by hard experience or by spreading of mythologies.

Before I dive into Phister's newest supplement and give you a sample and some reflections, let me list the subjects he does not cover in any thorough manner, but which I believe would be a worthy contribution to our literature. Perhaps such a list can inspire some budding writer and knowhow organiser — and he or she does not have to be American!

- A handbook on maintainability techniques and their costs and effects.
- A handbook on testing techniques and costs and effects.
- A handbook on documentation.

Comprehensive guide to industry facts

tion technology: costs and effects.

My list could be much longer than this, but the challenge is passed on to the reader, especially those in academic positions who are supposed to take care of our knowhow accumulation and elucidation, but seem to fail miserably in the computer sciences, with only a few exceptions.

Now back to Phister. In a survey of increases in system size from 1973 to 1978 the average price for IBM rental paid went up by between 11.8% (System 3/10) to about 76% (for 370/158 and 168). Univac 1110 had the largest increase (but there are probably few of these in the survey) of 83.5%. The IBM System 3/10 had the lowest increase of any model or supplier. Maybe this says something about foot-in-the-door marketing policies. Maybe it just represents growth in volume of applications.

One table tells us that IBM DOS 360 had 8.9 million statements while OS 380 had only 3.46 million statements! That was a surprise for me. I would have thought DOS was smaller. Not only that, but 86% of DOS modules were modified per release, while only 14% of OS modules were modified.

Another table tells us that

packaged application software industry growth rate (1978-79) was 38.1% per year. Nice industry to be in. On a chart nearby standard package sales is taking off like a rocket (from 1972-78) while "custom software" shows little growth by comparison.

We don't hear much about small systems like IBM System 3 but one table shows that there were about 22,000 in use at peak (1975-77), compared to the IBM 370 Series, which had about half that number in service at the same time. IBM worldwide sales and service costs are at about the 38% level for the past 20 years, and their earnings after tax (can you guess) between 10% (1960s) and 14% (recently). Phister's explanation for the increase in earnings at IBM is, surprisingly, "IBM's wealth". The net interest income from their wealth increased more than enough to compensate for a drop in operating income.

In another table we see that according to an IBM survey, upper management spends 24.5% of their time at meetings, 8.8% writing, 13.8% telephoning, 13.1% travelling and 0.1% only "using equipment". Somewhat I don't see that computer terminal on the top boss's desk yet. Unless it is for teleconferencing and text handling.

Montgomery Phister, Jun, Data Processing Technology and Economics, Bell volumes combined: Digital Press, 12A Esquire Rd, N. Billerica, MA, USA 01822, \$24.95 paper, \$28.95 hardbound, 1978-79. Supplement alone: \$9.00 from S. M. Publ. Box 3543, Santa Monica CA, USA 90403.



Professor Wilkes, pictured in front of part of the Cambridge equipment.

Who's Who in DP pay tribute to Professor Wilkes

THE names of the distinguished international guests who met at St John's College, Cambridge, to mark the retirement of Professor Maurice Wilkes after 35 years as head of the University Computer Laboratory (CW, July 24), would provide a sound basis for a DP Who's Who.

Spanning all the generations from the 1940s to the 1980s, a random selection of Wilkes' colleagues and students who assembled included Dijkstra, Barron, van Wijngaarden, Michaelson, Brooker, Wheeler, Needham, Hoare, Douglas, Yates, Woodger, Kilburn, Miller, Page, Wells, Coates... the list seemed endless.

The Vice-Chancellor of the University, Sir Peter Swinnerton-Dyer, an eminent software pioneer in the early Edsac days, presided over the evening's events with bravely and wit. He pointed to the quality and quantity of the turnout as an indication of the high esteem in which Professor Wilkes is held by all sections of the computer industry.

Among the representatives of the many professional bodies was John Bogod, president of the British Computer Society, who announced the establishment of the Maurice Wilkes Gold Medal to be awarded each year to the British subject whose papers published in the BCS Bulletin are adjudged the best.

The main speaker, Dr Ewan Page, Vice-Chancellor of Reading University, promised not to overdo the nostalgia, but his anecdotes of the early Edsac days (and nights!) at the Mathematical Laboratory during the early 1950s certainly succeeded in arousing many wistful memories among the older members present.

TEN YEARS AGO...

From Computer Weekly of July 30, 1970:

THE first move in a joint SAA/ICL sales drive has been to supply a complete computer system to the world's largest airline, the British United Airliners (BUA). The system, a BUA 3000, will provide the airline with a complete computer system for its flight operations. The system will be supplied by British Steel's Space

Private viewdata with 7,000 frames

A PRIVATE viewdata system that is Prestel compatible, has seven ports and a 7,000 frame capacity costing £17,000 has been launched by IncoTerm, a maker of terminal subsystems used by banks and airlines, which was taken over by Honeywell two years ago.

The system, called IncoTerm, is based on the IncoTerm SPD 20720 terminal processor unit running the RDE database management and remote data entry software which has been in the field for three years.

It will be marketed jointly with Radio Rentals Contracts, a subsidiary of Thorn-EMI which has already in partnership with ICL developed the Thornal box to enable in-house viewdata services to be run from existing mainframes.

Thorn also makes a television adapted for viewdata and Radio Rentals rents them at £28 a month, which is equivalent to the current rates for a colour

television plus a modem from British Telecom.

The smallest IncoTerm system uses a disc drive with a 5-megabyte fixed disc and a 5-megabyte removable cartridge. Expansion up to four drives is possible, giving a capacity of 28,000 full frames, although IncoTerm says frames are typically only 30% filled making the effective capacity nearer 100,000 frames.

Ports can be added up to a maximum of 35, which is estimated to serve 350 users.

Links to mainframes can be made by terminal emulations already implemented on the RDE system.

IncoTerm marketing director Pat Kieley said that the use of an existing system enabled the product to be developed at a cost that the market would bear. Developing it from scratch would have made it too expensive, which he believed was true of competitive products.

Honeywell launches four US DPS 8 models in UK

ALL four of the US models in the Honeywell DPS 8 line are now available in the UK — and the company has followed the US rather than the Continental line on the model numbering.

The four in the UK are the DPS 8/20, field-upgradable to 8/44, plus the 8/52 and 8/70, each of which requires a processor change. In France, CII-HB offers the top two models, plus an 8/48 which is field-upgradable to an 8/52.

Honeywell is touting the 8/20, which has a base price of £20,000, as a remote computer for use in Distributed Systems Environment networks. The 8/20 appears to be a little more powerful than IBM's 4331 Model Group 2 machine and is field-upgradable to an 8/44, which is 6% more powerful and claimed to match the power of the IBM 4341.

The 8/20 and 8/44 can shed some of the processing load to two "absent friends", the MSP 8000 for up to eight tape readers and four unit record devices, URP 8000 for up to eight unit record devices, the MTP 8000 for up to eight tapes, and the MSP 8000 and 8001 mass storage processors for disc.

First-UK customer for the DPS 8/20 is ATN Networks Ltd, further strengthening Honeywell's hold on IBA television

franchise holders. Thames, Yorkshire, Tyne Tees, HTV, Border and Ulster are all Honeywell users.

ATV's DPS 8/20 is replacing two DEC PDP-11s and will be used for transaction processing and a DMIV database of campaign statistics, audience profiles and ratings. All DPS 8 models, which run under the new GCOS 8 operating system as well as the compatible GCOS III, will be built in Scotland.

Call for papers

A CALL for papers has been issued for the Microsystems 81 Conference, to be held at Wembley Conference Centre, London from March 11-13, 1981.

Microsystems 81 is the fourth in a series of conferences and exhibitions designed to meet the rapidly changing information needs of managers and engineers responsible for developing and using microprocessor based systems.

Speakers should be sent by September 12, 1980, to Robert Perry, Microsystems 81, PO Box 63, Guildford, Surrey, GU2 5BH.

Microsystems 81 is sponsored by Computer Weekly, Microprocessors and Microsystems, Practical Computing and Systems International.

Software File

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Tally drops three dealers

IN order to provide what Mannemann Tally describes as "proper engineering support" for its products and "better local customer service" the company has dropped three existing distributors of its serial printer terminals and appointed two new ones.

The three distributors dropped are Comma Computer of Brentwood, Essex; Western of North London; and Data-Type Terminals of Cwmbran, Gwent.

The two new distributors are Rehen Computing of Southampton, and Central Systems of Manchester.

£200,000 order

COMMUNICATIONS equipment worth over £200,000 has been ordered from Case of Rickmanworth, Herts, by Metal Box for its 40-sites UK network. Included are 480/48 microprocessor-controlled modems and an Analyses II network monitoring system.

Comms box launch by Fortronic

FORTRONIC, the Scottish firm making a name for itself in the bank terminal business, has launched a microprocessor system in a box called the F500 that is being offered to big end users or systems houses as a communications processor for jobs like data encryption, data concentration and protocol conversion handling multiple terminals.

Fortronic also sees sales being made to schools and to systems houses addressing the general DP and word processing markets.

The F500 is configured around the Motorola 6809, which is upwards compatible with the Motorola 6800 chip used in the Transaction Terminal System, the Fortronic built unit now being sold by ICL to its banking customers (CW, March 13).

One big advantage of the 6809 over the 6800 highlighted by Fortronic is the ability to handle re-entrant code and thus support multiple terminals.

At the moment Fortronic uses the Digital Equipment LSI 11/03 processor as the controller for its

computer terminals being used on a pilot basis by Barclays Bank (CW, August 30, 1979) but any future systems will employ the F500 in place of the L11/03.

Apart from a desire to do its own thing in the controller area Fortronic, like many DEC customers, has been put off by long delivery times on much of DEC's kit.

The F500 will also be used in place of the L11/03 in any electronics funds transfer systems orders that result from the Counterspeed experiment being carried out in the Norwich area by Barclaycard in co-operation with several oil companies using Fortronic terminals (CW, June 12).

On the software side the F500 comes with an operating system that can support Fortran, Pascal and Basic, and Fortronic itself can provide software for handling IBM, ICL and Burroughs protocols. Data concentration software can be written by Fortronic itself to suit user needs and data encryption software will be based on the DES chip from Western Digital.

IMPORTANT NOTICE FOR DATA TERMINAL USERS

Promising is one thing - delivery is something else!

After successfully distributing a range of VDU's throughout Britain for two years, Volker-Craig has now formed a wholly owned subsidiary in the U.K.

Today, Volker-Craig (U.K.) Ltd., is now able to satisfy the increasing demand for the VC400 Data Terminals. New offices and showrooms at Watford, will include extensive stockrooms and service facilities to enable us to meet delivery requirements in the U.K.

All the 400 series terminals have a years' full warranty, and feature detachable keyboard and non-glare screens in various colours. Foreign character sets, serial and parallel peripheral interfaces, are just a few of the numerous options you can choose on all models.

The versatile Volker-Craig range

VC404
This Standard 1820 character, upper/lower case conversational terminal.

VC404H
The Hazeltine 1610 compatible. Features include buffered editing, formatting and character highlighting.

VC404PL
Offers full overstrike, split screen and buffered line edit mode.

VC4102
DEC VT52 compatible featuring character highlighting, function keys and status line.

VC410
The professional terminal with split screen, editing, status line, and highlighting.

VC410S
The Hazeltine 1610 compatible. Features include buffered editing, formatting and character highlighting.

VC410S
The Hazeltine 1610 compatible. Features include buffered editing, formatting and character highlighting.

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Volker-Craig House, Tolpits Lane,
Watford, Herts, WD1 6XL
Tel: (Watford) 0494 40043
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For more information on:
Volker-Craig's 400 Series
Terminals contact your local distributor. Or phone and for further details.

Name _____
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How micros can make work more satisfying



A chip being wired up.

TWO weeks ago we looked at the likely impact of the microprocessor on the job prospects for today's programmers and we found that, far from being a threat, it promised endless expansion in the demand for competent programmers (CW, July 10).

A former colleague now working in the micro field has suggested to us that not only would the micro provide plenty of work, but it would also make the job of the programmer significantly more satisfying and less frustrating.

He started by outlining his own experience, working on ICL and IBM mainframes.

"In 1970," he said, "your program was punched up on cards from your coding sheets. That took two or three days. You got your cards back, added some job control cards and put the program into the existing bin."

"Three compilations a day was the best you could hope for your new Cobol program. And you had to be quick to spot and correct the errors if you were to catch the next test run."

"Of course if it happened to be

the end of the month, there would probably only be one test run a day."

What, we asked, did people do while they were waiting for their program to come back?

"The really conscientious people started writing another program or at best got on with the documentation. Most people tinkled in their colleagues and drank coffee, or read Computer Weekly. Unfortunately there was no Page Six in those days!"

Five years on, things began to improve a little.

"By 1975, one had some kind of online facility. The first half of the process was the same, but once the program was put on to the computer it was written to file."

"Thereafter one could control one's own test runs and type in corrections. But usually it went into the queue, so you might have to wait half-an-hour for the results."

Things are not much different for most programmers today, and the large system devoted solely to development did not seem to be the solution either.

"The answer is the microprocessor development machine. Everything is built into the desk, and the only thing you may need to share is a printer, perhaps one to each three development machines, because printers will continue to be comparatively expensive."

"The point is that production software is very different from development software, and the micro makes it possible to separate the two."

"The programmer keys in his own program and compiles it as he goes in modules. Interactive debugging becomes cost-effective and is easier to provide on a micro."

"Most of the applications people want to write these days are interactive, so interactive debugging is ideal."

"But surely you can't get IBM Cobol on a micro?"

"No, that's true," he agreed. "IBM Cobol is somewhat in advance of any micro Cobol, but the best micro Cobols are at about the same level as Cobol on IBM's Series 1 and System 34, or the Honeywell Level 6 mini."

"Clearly you can't use a micro development machine for maintenance of existing programs. But there is no reason why you shouldn't use one for new applications, with a compatible subset of IBM Cobol."

Bob Dwyer says that the user most of the complex constructs because you can't see the programs should be as simple as possible.

"And micros are bringing other aids which will make pro-

grammer's lives easier and more pleasant. Because micros are always interactive, some people have built screen handling into their micro Cobol, and that can save enormous time if you compare it with developing, say, a CICS application.

"CICS is in effect a giant subroutine, with a lot of complex parameters which have to be set by the programmer, and users say that the biggest bottleneck in developing CICS applications is finding enough people who understand CICS. Most shops only have one."

"And you get continuing operational problems with CICS. You have to set up another partition for testing, and even then an error in the program being tested can bring the whole system down."

"Screen handlers give you display and accept commands which transfer a full display of data to or from the screen, with the data specified as just another Cobol record. So it effectively treats the screen as a file."

"The main part of an interactive program is screen handling. IBM is selling adapted batch Cobol for interactive working on its large systems, and the adaptations are often clumsy."

"Screen handlers lead to automatic software generators, and some new computers such as the Wang VS and the IBM 8100 already have these — utilities which allow the user to 'paint' a screen, building up protected and unprotected fields, and then automatically creating Cobol source code using data names built up from basic names given to it by the user."

"The latter adds complete device independence and flow control to the existing ICL XBM protocol."

"Several facilities which will be offered in IPA have been defined. Remote Session Access, RSA, allows a terminal user to access any service available on the network; connection has to be made through the terminal's local host, and RSA would be used for things like compiling and debugging an application."

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ICL launches information processing architecture

From front page

agreed and is thus unlikely to find itself seriously wrong-footed by future developments.

The ISO model has seven levels; the top three levels are associated with the aspects of information processing, and there is a clean break between them and the other four, which perform the functions of message delivery.

These four levels are the transport, the network, the link and the physical levels, the last three being levels one, two and three of the X25 packet-switching definition. ICL plans to put all four into a new Multi-Function Communications Processor, MFCP, expected shortly. This will be code-compatible with the existing front end processors and, by making a clear division between transmission and information processing, ICL is insuring itself against future developments.

As an example, it cites the possibility of European PTTs buying from AT&T in the US the ACS Advanced Communication System, which would take all message handling applications out of the hands of the user.

The top three layers of IPA handled in the three mainframe operating systems are the application itself, the presentation, which provides terminal or format control; and the session, which provides connection and recovery control.

ICL's original model included the session and transport levels in levels above or below, but it plans to implement the ISO model.

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SOFTWARE FILE

User groups' ideas in MVS extensions

IBM is planning Release 2 of System Product, its umbrella title for the MVS extensions, for July 1981.

The upgrades are being made in response to suggestions from user groups Share and Guide, which have requested such features as JES2 networking, improved spool reliability, the facility to offload spool information and store on tape as well as the capability of a user to add his own extensions.

Networking is to become standard for JES2, as well as support for the new disc devices 3375 and 3380. It will also be possible to store data in card image form and as print lines.

Also due at the same time is an extension feature of the architecture which will allow cross memory services. This means that user areas will be able to communicate directly with one another without using shared space, thus decreasing the common area required and allowing more room for data and user programs.

The then current release of IMS Database Data Communications will be upgraded to take advantage of this facility.

The feature will be available in hardware and microcode on the 3031, although other machines such as the System 32 and the series 158 and 188 mainframes can run cross memory with the MVS System Extensions — presumably not as efficiently without the hardware/microcode enhancements.

One of the major enhancements to MVS will allow information about data to be shared across processors. Known as Global Resource Serialisation, it will mean that contention in sharing data will be cut down without sacrificing integrity, since a processor will no longer reserve the entire volume it is using.

The lockout will occur at the much lower level of dataset, thus allowing a second process-

or to access data from the same volume.

At the same time there will be Version 2 Release 4 of the Resource Management Facility, which will support Global Resource Serialisation with additional real time displays.

IBM also announced enhancements to the 303X line (CW, June 19) such as extended addressing, due in December 1981, which will be supported by the current MVS/SP.

Further details on the 3814 Switching Management System, due to replace the 2014 in the third quarter of 1981, show improved management facilities, such as allowing pre-stored configurations (parameters on diskette) and control of remote consoles from a central point.

The product aims to provide controlled sharing of data as well as standard data protection. Password control works on group and individual level so that access to data can be controlled by department, terminal, and geographical location.

The system uses three databases all accessed through VSAM. The first, Logonid, contains one record per authorised user, and the Rule database specifies who, under what conditions, can access data. The third, Information Storage, holds generalised resource rules and other system data.

According to CGS European marketing manager Zoran Pirjevec, ACF2 avoids the pitfalls of RACF such as needing to key all data, involving excessive I/O, and giving the user access to source code. He sees little threat in RACF or the European Software Company's product Secure.

Pirjevec left a flourishing career with Pansophic to set up CSG's new European HQ.

ACF2 costs £13,500, and takes up less space than RACF at about 8 megabytes.

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Checking structured programs

A PROGRAM tool to check the "shape" of structured programs is available from Peter Bell of Denary Close, Chester, Cheshire, the product is written in Cobol to run within 60K-bytes on any machine supporting the language, and costs £1,950.

Chartit aims to discipline and control the quality of structured programming. Using data directly from source programs, it prints structure charts up to 80 levels deep and 999 modules wide showing control links between modules.

The product was born in 1977 out of suggestions made to IBM by the Software Security Committee of the IBM user group Share. When IBM failed to respond, committee member Barry Schrag set out to solve the problem himself.

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According to CGS European marketing manager Zoran Pirjevec, ACF2 avoids the pitfalls of RACF such as needing to key all data, involving excessive I/O, and giving the user access to source code. He sees little threat in RACF or the European Software Company's product Secure.

Pirjevec left a flourishing career with Pansophic to set up CSG's new European HQ.

ACF2 costs £13,500, and takes up less space than RACF at about 8 megabytes.

The product aims to provide controlled sharing of data as well as standard data protection. Password control works on group and individual level so that access to data can be controlled by department, terminal, and geographical location.

IBM 'worried' by security rival

US FIRM Combridge Systems Group is making a bid to corner the market in security software for IBM's MVS operating system. It is rumoured that IBM is alarmed enough at the competition for its own product, RACF, to offer bonuses to its US salesmen who win contracts against the newcomer, ACF2.

The product was born in 1977 out of suggestions made to IBM by the Software Security Committee of the IBM user group Share. When IBM failed to respond, committee member Barry Schrag set out to solve the problem himself.

The product aims to provide controlled sharing of data as well as standard data protection. Password control works on

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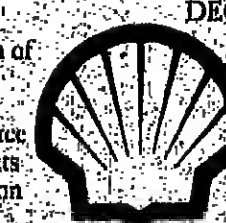
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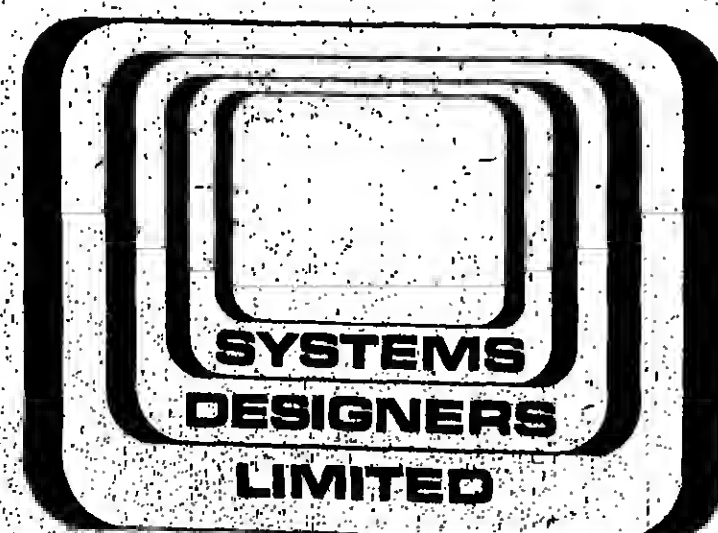
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.. CONTRACTS .. CONTRACTS .. CONTRACTS ..

Contracting is now a 'respectable' profession

by Peter Lynch

THE contracting business is now losing its "body shopping" image, and that overused word in the DP industry, "professionalism" is being applied to an integral and much valued source of skills that forms the basis of a new service industry that the DP world cannot ignore.

The DP manager is no longer looking to contractors for just coding; he now requests expertise that for various reasons he does not have in-house.

DP managers now are very specific in their requirements i.e. PL/I, CICS, DL/I or Database Administrators, technical writers, Cobol, IDS, TDS, systems programmers with knowledge of database, TP and relevant operating systems.

The main reasons for the use of contract staff have not greatly altered: major developments, conversions, peaks and staff shortages; but what has changed is the recognition that a vast reservoir of talent is now available at a senior level that a DPM can call upon for a limited period and can have under his direct control.

Some years ago the contract market got itself a very bad reputation. Unfortunately a number of so-called cowboys — by this I mean the agencies who saw easy pickings — started to sell the idea of supplying contract programmers or analysts to the users. The problem came when the

poor programmer or analyst expected to be paid, and six or seven years ago one was constantly hearing of contract agencies going out of business and leaving the analysts and programmers, etc without their payments.

This has not completely changed, but nowadays the business is much more professional and it has become an industry in its own right. We now have the service bureau and the software house, the last two often competing for the same kind of business.

The experienced contractor knows what agencies he can trust to pay promptly, negotiate extensions and try to give continuity of employment when requested or available. The professional contractor should also try to ensure that three or even four agencies do not put up his profile to the same client — it loses him credibility and can be embarrassing for the client when agencies then bicker over "ownership" of the said contractor.

Contractors should jealously guard their reputation as it follows them throughout their career and is checked on frequently. It's a daunting task for the would-be contractors to find out where they can go for the correct advice. Firstly, they should consider carefully whether they are good enough to be a contractor. Have they the skills and temperament that are required in today's DP scene? The would-be contractor should talk to experienced contractors and contact respectable agencies to discuss pay, sickness benefits, holidays, mortgages etc. He should choose his agencies carefully and ensure he is getting paid the correct market rate for his services and not, after accepting a six-month contract, arrive on site only to find that he is being paid £50 a week below other contractors and is only subsidising his agent's Jogan.

The opportunities and rewards for contracting are immeasurable. International assignments, high pay, tax advantages and an ever-changing DP scene all combine to make contracting a worthwhile career for the enlightened DP professional.

I believe that the future in contracting is a very big business. Programmers realise that they have special talents. Why should they sell those talents to software houses cheaply and then be charged out at enormous rates to users? Why not capitalise on that experience themselves? It seems to me that more and more users realise that they do not need to use software houses to supply them with these programmers when they can go directly to the contract houses who, while not taking any project responsibility, are doing exactly the same thing as

the software houses.

Contracting is here to stay. If someone had said 10 years ago that such a large proportion of the industry was going to be working on a self-employed basis, "impossible" would have been the answer. But during the last six or seven years the face of computing has changed considerably, and I would dare to suggest that the great majority of computer installations do not normally need large teams of programmers and probably do not need to have such an enormous group of analysts as in the past. All too often companies see themselves committed to projects which require a particular expertise for a limited period of time and are then embarrassed, not only with the cost of that expertise but also with the need to develop expertise in other areas without having the time or desire to do so. Hence one reason why the contract market has sprung up.

In the North the contracting scene is in an interesting period of evolution.

Contractors are more readily accepted in the user environment and while contracting requirements are now very specific, the state of the market in the North is both healthy and competitive. The contracting trend is obviously closely allied to the success in marketing a product by computer manufacturers. Examples include new packages and major developments by IBM, an increase in hardware sales by both Univac and Honeywell, etc. It is worth noting that these seem to be at the expense of ICL, and for this reason the contracting market now has a surplus of ICL-oriented contractors. We hope this is a temporary situation, as it is in all our interests for our major British computer manufacturer to have a substantial share of the market.

The North of England is serviced by some of the best contract agencies in the UK. Most Northern agencies are continually striving to improve their presentation, professionalism and image as suppliers of high

quality computer professionals. Throughout the North there are agencies of all sizes from one-man operations through to large international companies with multi-million pound turnovers.

Size should not be the only criterion used in selecting an agency by either user or contractor.

It is possible for a company to grow at a very fast rate at the expense of the contractor by paying less than the market rate in force at the time. To the contractor it is of the utmost importance to evaluate the financial stability of any contract house through which he is considering marketing his services. The North is very fortunate in having a number of smaller contract houses that offer a good personal service and have a reputation for fairness.

What we should be looking for in the operation of the contract company is a high degree of proficiency. From first contact, by telephone or letter, the contractor should be invited in for an initial interview and asked to fill out a detailed application form or supply a comprehensive CV. References should be asked for and qualified.

I believe that the contract house operation will become a very significant force in the computer service industry over the next few years.

The author is general manager of John Goldsmith, North

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This is your opportunity to extend and develop your solid computer experience in the U.K. & Ireland with one of the U.K.'s foremost computer opportunities and software houses. Fraser Williams provides a wide range of services to commerce and industry from programming to turnkey systems - based on minis, micros and mainframes. Bristol is the nearest of our U.K. offices and exceptional opportunities exist for dedicated professionals to participate in its growth.

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King Tom Jones for further information on Bristol (0272) 214441 weekdays or Bath (0226) 318573 evenings.

Alternatively, write to him at: Fraser Williams (Bristol) Guy's Chambers, Tower Lane Bristol BS1 2JG.

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JBA

Management Consultant

City Based £13,000+

This international consultancy is in the process of recruiting top class DP professionals, for their U.K. division. They offer services on a world-wide basis mainly in a financial capacity.

To join this team of professionals, a high standard of education, plus a successful work record within a financial or accounting discipline is essential. In-depth knowledge of the Data Processing industry i.e., feasibility studies, design and implementation of systems must all be covered in your career to date. Promotions and increases are directly related to ability and results. Therefore prospects for a successful consultancy career, leading to a management role is excellent.

Contact: Janet Chilvers

Development Manager

City to £11,500 + mortgage

Our client, a major international corporate bank, with many EDP systems, which are either under development or in use, is seeking to appoint an experienced individual to help maintain the high standards required in its London office. As the manager of a small team, you will be expected to make a significant contribution in the development of new business applications.

Applicants must be well educated and should possess two years' project leading experience ideally gained in a financial environment, while a sound knowledge of R/CII (Sys 3) is mandatory.

In addition to the competitive salary, our bank provides a comprehensive range of benefits including low-interest mortgage facilities, non-contributory pension, life and medical insurance plans and an interest free season ticket loan.

Contact: Margaret Stevens

Operations Manager

South London c.£9,000

Our client, a medium sized bureau, is a subsidiary of a well established group of companies, providing diverse services and products, to a highly professional area. They have just installed PDP hardware along with two data capture systems, and plan to develop their northern site similarly, in transit data to the London operation. A minimum of ten years in operations, with at least five spent in a supervisory role, showing evidence of managerial achievement and potential. A sound background consisting of several years working experience on DEC PDP 11's preferably the 11/70's and in depth understanding of RSTS.

The appointee will be responsible for all activities relating to operations, including the control of approximately sixty staff, and will also deputise for the bureau manager in his absence.

Contact: Janet Chilvers

Software-Micros-Development

Surrey neg to £9,000+

Opportunities exist for real time programmers and designers to join a fast expanding member company of an internationally recognised electronics organisation. There are vacancies at several levels for software specialists to work on the development of communications systems. Applicants will be experienced Assembler programmers and ideally have some background in the design of technical applications. A knowledge of data communications, Message/Packet Switching and Telephony would be an advantage. Excellent opportunities for career advancement.

Contact: Margaret Stevens

Software Designer

Essex/N. Herts Up to £8,000 + benefits

Our client, a major force in the development of communication systems, is currently seeking an experienced person to undertake challenging work in respect of systems design. The appointee will be responsible for the specification and design of Real-Time systems for application to the communication equipment. A relevant degree is essential, together with a minimum of two years Software Design experience, not necessarily microprocessors, in a real-time technical rather than commercial environment. A knowledge of Coral programming would be advantageous. Salary will be based upon experience and where appropriate relocation expenses will be offered.

Contact: Isabel Bruce

Programmer-Micro-Systems

City c.£8,000

Our client, who specialises in the development of real-time communications devices, wishes to recruit an experienced professional capable of taking full responsibility for specific projects. A minimum of two years experience must include knowledge of PDP8 or PDP11, minis using Assembler, the M6800 micro and some exposure to message switching networks.

Overseas travel on trouble shooting assignments is inevitable to support the foreign client base.

Excellent opportunity to join a small but growing organisation. Contact: Brian Postles

Programmer/Analyst

City c.£7,500 + benefits

This is an excellent opportunity for experienced programmers to make the final move into systems analysis with this blue chip company utilising their vast computer network. It is essential that at least 18 months have been spent in an IBM environment using PL/I with experience of specification writing and the implementation of a small system. Knowledge of COBOL, BASIC, REXX or ASSEMBLER, with exposure to the use of on-line programming and database, would be a definite advantage. Immediate responsibilities will include Program Specification and Development and Link and Systems Testing. Career prospects are exceptional and every encouragement will be given to utilise the training facilities available.

Contact: Isabel Bruce

Programmers

Hampshire Coast c.£7,000 + relocation

Our client has an immediate requirement for several programmers with minimum 18 months of COBOL/COBOL and ideally knowledge of PL/I. You will have worked in a DOS/VS environment before on commercial systems and be able to demonstrate a desire to progress quickly.

An excellent opportunity to capitalise on your existing experience.

Contact: Brian Postles

JAMES BAKER ASSOCIATES,

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Tel: 01-439 9311.

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Please send your CV, including references, to: Mr. J. G. Smith, Personnel Manager, Perkin-Elmer Data Systems, 227 Bath Road, Slough, SL1 4AX. Tel: Slough 34611.

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Rosemount are industry leaders in the technology of Pressure and Temperature measurement in Industrial and Aeronautical application.

A vacancy has occurred for an Analyst/Programmer. He or she will be responsible for completing the installation of MAAPICS MRP and for the further development of Sales Analysis Systems on our System 34 computer.

Ideally, candidates should have three years programming experience, preferably in RPG II. We can offer a highly competitive salary, and a quarterly profit sharing bonus.

Please write with brief details or telephone for an application form to:-

Miss L. Christmas,
Rosemount Engineering Company Limited,
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Tel: Bognor Regis (0243) 863121.

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from £8,200 negotiable

The Company needs to recruit for two new jobs: Job experience needs to have included a minimum of three years of programming (preferably I.C.L. Cobol) and one year of systems analysis in a related service industry.

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The Company has a non-contributory Pension scheme, free life assurance, a preferential mortgage scheme, a season ticket loan scheme and a subsidised restaurant amongst the benefits extended to staff. Applicants are invited to provide written details of their personal history and job experience to:

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The successful candidates will be required to work under the direction of a Principal Programmer or Principal Analyst (as appropriate) and may possibly be required to lead a small sub team of programmers or analysts.

The persons appointed will join an expanding Department which expects in October 1981 to replace its current ICL 1904S computer with an ICL 2972 operating under VME/B.

For an application form and further particulars please apply to:-

Personnel Division,
Welsh Health Technical Services Organisation,
Heron House,
35/43 Newport Road,
Cardiff CF2 1BB.
Tel: Cardiff 499921 Ext. 18.

Closing Date: 14th August, 1980.

COMPUTER DEPARTMENT
Welsh Health Technical Services Organisation
Swyddfa Gwasanaethau Technegol Iechyd Cymru

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The Supervisor will be in charge of an operating unit (Evening/Day shift), Monday to Friday. The Assistant Supervisor will be second-in-charge. A shift allowance of 14% is presently paid in addition to basic salary. Applicants must have considerable supervisory experience in a computer installation.

Application forms may be obtained from The Assistant Director of Manpower Services, Glasgow Sub-Region, Strathclyde House, 20 India Street, Glasgow G2 0NF, to whom completed forms should be sent. No. should be returned by August 14, 1980.

R. M. O. McCulloch,
Director of Manpower Services.

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2863, 2865, 2867, 2869, 2871, 2873, 2875, 2877, 2879, 2881, 2883, 2885, 2887, 2889, 2891, 2893, 2895, 2897, 2899, 2901, 2903, 2905, 2907, 2909, 2911, 2913, 2915, 2917, 2919,

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A major systems and programming group, based in the north, is seeking a sales and systems support officer to provide a consultancy support service to a wide and diverse variety of both group and individual clients. The successful candidate will be expected to play a major part in the investigation and design of client systems and to assist with project planning, monitoring and control. You will maintain awareness of the relevant capabilities of central mainframes, distributed processing, Micro, and Mini computers, applications packages and business management techniques.

Senior/Programmer Consultants will be expected to contribute towards planning, the design of complex systems, databases or data management capabilities, through to the provision of a consultancy service on programming languages including COBOL, PL/I, Business Basic and other languages as appropriate. Assistance with test, training and development will be necessary. A minimum of 6 years' experience is essential for either position category.

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Increasing demands are creating a shortage of good computer design and programming talent. We have a number of positions available for systems analysts with 2-5 years experience, practical experience and professional skills. 1 year additional previous programming experience is desirable for systems to work in computer, distribution, manufacturing or other areas. The job involves client contact, pre sales support, negotiations and an amount of Fortran programming. Vacancies exist in many locations throughout the UK. Salaries will be negotiated according to experience. We are a leading bureau and experienced Analyst / Programmer will assist your Fortran experience, preferably on Mainframes, with some mainframe knowledge also. Computer graphics experience, particularly plotting would be a distinct advantage. The position involves client contact, pre sales support negotiations and an amount of Fortran programming.

Consultant: Carol Atrak—0782 525688.

Project Managers Birmingham

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All candidates must have undertaken at least 2 years' Cobol programming at some stage during their career. We seek applicants aged from 27 upwards prepared to work in a demanding environment and control teams of up to 5 staff. Travel to client sites is an important function so a driving licence is essential. We offer a modern, informal working environment where promotion based upon results is assured for all group staff.

Consultant: John Wood—0782 525688.

IBM Cobol Prog. Hemel Hempstead

Up to £8,000

Our clients, a major engineering group, are seeking an IBM COBOL Programmer with a minimum of 2 years' experience, preferably with knowledge of JCL, Easytrieve or Parafit. The successful candidate will work in a small team using structured programming techniques. The site currently have JCL terminals connected to IBM 3033 and 370/86 mainframes running under MVS/JES 2. Additional facilities are TSPD, IMS and IBM 6100 distributed processing.

Consultant: Carol Atrak—0782 525688.

IBM Project Controllers and Programming Controllers Merseyside

Ref: 002.110940 £7,000

Candidates should be capable of project planning and project controllers. Project Controllers will control analysis and design functions taking projects with regular user contact from initial concept through to final installation. Expectation to graduate level is preferred.

Programming Controllers will be experienced in IBM ANSI Cobol and Assembly, and have proven ability to plan and manage large work loads. Experience of PL/I or IMS is essential. Any experience of minor Distributed Processing would be particularly desirable.

The client is a subsidiary of a major UK engineering group, with a reputation for quality and innovation. Applications are either by post or in person to the client.

Consultant: Carol Atrak—0782 525688.

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Consultant: Carol Atrak—0782 525688.

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Consultant: Dan Wellstead—0782 525688.

Progs. & Analysts—Banking Systems Manchester/Cheshire

to £8,000

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Software Designers & Systems Programmers Middlesex

to £8K

Our clients, a major Space and Defence Systems Manufacturer, have over 80 current vacancies for experienced systems designers and programmers. The successful candidate will be expected to work in a team, using structured programming techniques. The site currently have JCL terminals connected to IBM 3033 and 370/86 mainframes running under MVS/JES 2. Additional facilities are TSPD, IMS and IBM 6100 distributed processing.

Contact: Carol Atrak—0782 525688.

IBM PL/1/COBOL Progs. South Coast

Up to £7,000

A Council urgently require 4 additional programming staff to work on a major expansion phase developing a property database. The system runs under DOS/VS. Any experience of COBOL, PL/1, would be a definite advantage. The successful candidate will be expected to work in a team, using structured programming techniques. The site currently have JCL terminals connected to IBM 3033 and 370/86 mainframes running under MVS/JES 2. Additional facilities are TSPD, IMS and IBM 6100 distributed processing.

Contact: Carol Atrak—0782 525688.

Senior Software Designers & Progs. Hants, London, Cheshire

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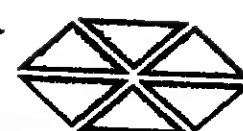
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Up to £7,000

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THE SALES BIT

Recession—a time to sort out the staff

MOST senior executives within the computer industry must now be giving considerable thought to the effect of transient recession upon their short and medium term business prospects. I suppose it is to be expected that many will view the situation purely within the context of the phenomenal and perpetual success of the computer industry rather than relative to the performance of the total industrial and commercial sector.

Reactions to the present economic climate remind me of a comment I used to hear in my office. The speaker depicts a sales director or a managing director, both of whom are studying a sales performance graph. Sales performance for the first six months, commencing slightly above the bottom left-hand corner, shows rapid and exponential growth. So dramatic is the sales success, that the performance line has gone off the graph and a considerable way up the office wall. However, in the current month, the trend has been contradicted by a sales achievement of some five per cent less than the previous month, showing a slightly negative trend. The managing director is saying to the sales director: "Whatever we do, we must not panic!"

One can already witness computer companies over-reacting to current economic trends. Undoubtedly, there are going to be some fatalities within the coming months, but there is perhaps some comfort in the fact that while many industries will never fully recover from the present economic onslaught, the computer industry is invulnerable. The problems of many end-users, whose survival is somewhat more in question than the typical computer supplier.

I have always believed that the medicine most needed by many computer companies is a good old recession. In a lot of situations it is the only pressure that can force a close investigation of operational efficiency and the nature of individual contribution. There is an enormous amount of dead wood in the computer industry that is perpetuated by a gross shortage of personnel. The "Warm and Walking Test" continues to keep a lot of inadequate people in employment rather than their ability to fulfil their appointed role.

Those senior citizens who can remember as far back as 1973 will recall that the situation was, in many ways, similar to the present time. I was working in the service bureau industry at the time and we lost 35 per cent of our turnover in three months, due primarily to the fact that our workload largely consisted of technical projects oriented applications. My view was that we had to rationalise our operation, and the subsequent quality of service was all the better for it.

During that same period, several computer manufacturers reacted in the most extraordinary fashion. Some put themselves into suspended animation—a kind of functional limbo—where all marketing, product development, recruitment and investment was frozen in the hope of better things to come. One company sacked its entire sales force. Dramatic stuff, and what a long time it took for them to recover credibility, particularly in the eyes of potential employees when business picked up again.

The point I want to make is that economic recession provides opportunities as well as problems. "Putting up the shutters and hoping it will go away" is not only pathetic, but also an inaction, inviting stagnation and financial disaster.

From the sales point of view, freeing recruitment is almost as bad as sacking the sales force. As economic recession reduces the business "cake", competition increases and the need to at least maintain one's share of a reducing market is paramount. Therefore the need for truly effective salesmen increases, while, at the same time, the ability to tolerate passengers completely evaporates.

I have stated before, a fast growing market and a shortage of first-class salesmen is a pleasant environment for the inadequate performer. Clearly, incompetent salesmen should not survive at any time, but they do, particularly in the computer industry. My plea to sales management (being mindful of my own interests in sales recruitment) is that during the coming months, they avoid the negative trap of "battering down the door" and instead, instead the positive opportunity of using any business shortfall as a justification (if they ever needed one) for ensuring they have a sales operation staffed only by contributors, even if that means releasing some of the existing team and obtaining the kind of salesmen they should have employed in the first place—and that could mean higher achievement with fewer people.

TRADER

Trader welcomes comments on his column and is happy to consider readers' problems in marketing and selling.

Explaining Context

A BROCHURE explaining the use of the Context system for programming microprocessors in complex and time-critical applications has been published by Systems Designers Ltd. Copies are available from Systems Designers Ltd, 17-19, High Street, Frimley, Tel: 0786 63471.

Puzzle Answer

41 x 35 = 1435 is the only possible answer.

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